WHAT IS CLAIMED IS:

1. An isolated phosphorylated mammalian DARPP-32 protein comprising a phosphorylated threonine residue; wherein the threonine residue can be reversibly phosphorylated and dephosphorylated ; and wherein when the threonine residue is dephosphorylated, it can be phosphorylated by Cdk5.

2. The phosphorylated mammalian DARPP-32 protein of Claim 1 which can inhibit the kinase activity of cAMP-dependent protein kinase (PKA).

3. The phosphorylated mammalian DARPP-32 protein of Claim 2 wherein the DARPP-32 protein has the amino acid sequence of SEQ ID NO:1 or SEQ ID NO:1 with a conservative amino acid substitution, and the threonine residue is the seventy-fifth (75) amino acid residue of the amino acid sequence.

4. A phosphorylated fragment of a DARPP-32 protein, wherein the fragment of the DARPP-32 protein comprises a phosphorylated threonine residue that when dephosphorylated, can be phosphorylated by Cdk5.

5. The phosphorylated fragment of a DARPP-32 protein of Claim 4, wherein the DARPP-32 protein has the amino acid sequence of SEQ ID NO:1 or SEQ ID NO:1 with a conservative amino acid substitution, and the threonine residue is the seventy-fifth (75) amino acid residue of the amino acid sequence.

6. A fusion peptide comprising the phosphorylated fragment of a DARPP-32 protein of Claim 4.

7. A chimeric protein comprising the phosphorylated mammalian DARPP-32 protein of Claim 1.

8. A phosphorylation state-specific antibody having specificity for Thr75-phosphorylated DARPP-32 having the amino acid sequence of SEQ ID NO:1.

9. The antibody of Claim 8 which is a monoclonal antibody.

10. The antibody of Claim 9 which is a chimeric antibody.

11. A method of identifying an agent that can modulate the phosphorylation state of Thr75 DARPP-32 comprising:

(a) contacting a potential agent with Cdk5 or an analog thereof, and DARPP-32 or a Cdk5 phosphorylatable fragment of DARPP-32; and

(b) determining the amount and/or rate of phosphorylation of DARPP-32 or the Cdk5 phosphorylatable fragment of DARPP-32; wherein the potential agent is identified as an agent that can modulate the phosphorylation state of Thr75 DARPP-32 if the amount and/or rate of phosphorylation of DARPP-32 or the Cdk5 phosphorylatable fragment of DARPP-32 determined is significantly changed in the presence of the potential agent relative to in its absence.

12. The method of Claim 11 further comprising:

(c) contacting the agent with an alternative protein kinase and a substrate for that alternative kinase; wherein the alternative kinase is known not to phosphorylate DARPP-32 on Threonine-75; and

(d) determining the amount and/or rate of phosphorylation of the substrate; wherein the agent is identified as an agent that can modulate the phosphorylation state of Thr75 DARPP-32 if the amount and/or rate of phosphorylation of the substrate is not significantly changed in the presence of the agent relative to in its absence.

13. The method of Claim 12 further comprising:

(e) administering the agent to a mouse along with a dopamine D1 receptor agonist; wherein the administration of the dopamine D1 receptor agonist alone results in an increase in the phosphorylation state of a cyclic-AMP dependent protein kinase (PKA) substrate naturally occurring in the mouse; and

(f) determining the amount and/or rate of phosphorylation of the PKA substrate; wherein the agent is identified when the amount and/or rate of phosphorylation of the substrate is significantly decreased in the presence of the agent relative to in its absence.

14. The method of Claim 13 wherein the agent can cross the blood brain barrier.

15. The method of Claim 14 further comprising:

(g) administering the agent to a DARPP-32 knockout mouse along with a dopamine D1 receptor agonist; wherein the administration of the dopamine D1 receptor agonist alone results in an increase in the phosphorylation state of a cyclic-AMP dependent protein kinase (PKA) substrate naturally occurring in the mouse; and

(h) determining the amount and/or rate of phosphorylation of the PKA substrate; wherein the agent is identified when the amount and/or rate of phosphorylation of the substrate is not significantly changed in the presence of the agent relative to in its absence.

16. A method for treating dopamine dysregulation in an individual comprising administering to the patient an agent that either inhibits the phosphorylation of Thr75-DARPP-32 or promotes the dephosphorylation of Thr75-DARPP-32.

17. The method of Claim 16, wherein the dopamine dysregulation leads to a symptom characteristic of a condition selected from the group consisting of schizophrenia, Parkinson's Disease, Tourette's syndrome, Huntington's disease, attention deficit hyperactivity and drug abuse.

18. The method of Claim 16, wherein the agent can cross the blood brain barrier.

19. The method of Claim 16 wherein the phosphorylation of Thr75-DARPP-32 is inhibited by inhibiting Cdk5.

20. The method of Claim 19 wherein the agent is roscovitine.

21. The method of Claim 19 wherein the agent is a member of the class of compound selected from the group consisting of an indirubin and a paullone.

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